

### **Remarks**

Claims 1-29 are pending in the application.

Claims 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (Sync-MS: Synchronized Messaging Service for Real-time Multi-Player Distributed Games, hereinafter "Lin").

Claims 1-18 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Lamport (Time, Clocks, and the Ordering of Events in a Distributed System, hereinafter "Lamport").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Entry of this Amendment is proper under 37 CFR 1.116 since the amendment: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the previous Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; or (e) places the application in better form for appeal, should an appeal be necessary. The amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the amendment is thus respectfully requested.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel

and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewriting to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

#### **Rejection Under 35 U.S.C. 102**

Claims 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (Sync-MS: Synchronized Messaging Service for Real-time Multi-Player Distributed Games, hereinafter "Lin"). The rejection is traversed.

Claim 21 has been canceled, and its rejection is therefore moot.

Claim 19 has been amended to recite, in part: "wherein said reaction time is used by said multi-player game to order responses by said players to thereby provide said fair exchange of messages without clock synchronization among said game server and said players" (emphasis added).

The amended claim incorporates certain features from dependent claim 21 and claim 1, respectively. As such, no new matter has been added. Since the features in the amended claim 19 are present in existing claims, there are also no new issues introduced as a result of this amendment. It is respectfully requested that the amended claim be entered.

As acknowledged by the Examiner in connection with claim 1, Lin does not teach a method of achieving fair order or fair exchange of messages in a distributed multi-player game without clock synchronization among the game server and players.

As such, the amended claim 19 is not anticipated by Lin, and is patentable under 35 U.S.C. 102. Since claim 20 depends from claim 19, it is also allowable over Lin under 35 U.S.C. 102.

Therefore, the rejection should be withdrawn.

Applicants submit that, since claim 19 contains relevant features similar to those of claims 1 and 22, for reasons set forth below, claim 19 is also patentable over Lin and Lampport under 35 U.S.C. 103.

#### **Rejection Under 35 U.S.C. 103**

Claims 1-18 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Lampport. The rejection is traversed.

Applicants respectfully submit that the Office Action failed to establish a prima facie case of obviousness because the rationale provided in the Office Action for combining Lin with Lampport is flawed. Furthermore, even if combined, Lin and Lampport fails to teach or suggest all the elements of Applicants' claimed invention.

As acknowledged by the Examiner, Lin fails to teach or suggest the feature of: "delivering said action messages for processing by said game server in an order of increasing reaction time without clock synchronization among said game server and said players," as recited in independent claims 1 and 22, respectively (emphasis added).

Citing Lampport's pages 558-562 for teaching ordering of gaming events using logical clocks, the Examiner concluded that it would have been obvious to combine the teachings of Lin and Lampport "to replace logical clocks to avoid using physical clocks because real clocks are not perfectly accurate and do not keep precise physical time (Lampport, The partial order, par. 1) or in order to skip the burden of synchronizing physical clocks." (See Office Action, page 6.)

Applicants fails to see how the above reasoning can lead to a combined teaching of Lin and Lampport to result in Applicants' claimed invention, which includes delivering action messages without clock synchronization among the game server and the players.

First, Applicants submit that the rationale stated in the Office Action for combining Lin and Lamport is flawed because it would suggest eliminating the need for Lin, as opposed to combining with Lin.

Lin specifically teaches a "Synchronized Messaging Service" (Sync-MS) for real-time multi-player distributed games, which uses two mechanisms, Sync-out and Sync-in to provide order fairness (Lin, Abstract). As discussed, Lin's model requires synchronized clocks (e.g., Lin, p.2, third paragraph and footnote 1; p.3, left column, 2nd paragraph; p.4, left column, 3rd paragraph under Sync-out).

The Examiner's rationale for combining Lamport with Lin is to eliminate the need of using physical clocks or the need for synchronizing the clocks as taught in Lin.

However, if eliminating the need for physical clock synchronization is the motivation, then one would conclude that it should not lead to a combination with Lin. On the contrary, such a motivation would suggest eliminating the approach of Lin altogether, because Lin's Synchronized Messaging Service is based on these synchronized clocks.

Thus, Applicants submit that the reason for combining Lin with Lamport has not been clearly articulated in the Office Action, and a prima facie case of obviousness has not been properly established.

Furthermore, even if combined, the teaching of Lin and Lamport still does not teach delivering action messages for processing by a game server in the manner provided in Applicants' invention, namely, without clock synchronization among the game server and the players.

Lamport states in its Abstract that the concept of one event happening before another in a distributed system is examined for defining a partial ordering of the events, and teaches a "distributed algorithm for synchronizing a system of logical clocks which can be used to totally order the events" (Abstract, and p.558, right column, 4th paragraph). Lamport further teaches that certain anomalous behavior can be avoided "by introducing real, physical clocks, and a method is described for synchronizing these clocks" (p.558, right column, 4th paragraph).

Thus, Applicants submit that the teaching of logical clocks in Lamport, by itself, does not teach a method of delivering action messages without clock synchronization.

Specifically, there is no teaching in the cited sections of Lampert that action messages are delivered for processing by a game server without clock synchronization among the game server and the players, as provided in Applicants' claims 1 or 22. As such, claims 1 and 22 are not obvious over the combined teaching of Lin and Lampert.

Since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also patentable under 35 U.S.C. 103 over Lin in view of Lampert.

Therefore, the rejection should be withdrawn.


### Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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